

REMARKS**Introductory Comments:**

Claims 1-17 are pending in the application. The Applicant respectfully requests reconsideration of claims 1-17.

In Response To The Drawing Objections:

In response to the drawing objection set forth by the draftsman dated September 4, 2003, three sheets of substitute drawings have been submitted herewith containing Figs. 1, 2, and 3.

The drawings are further objected to in paragraph 2 of the Office Action dated September 15, 2003 under 37 CFR 1.83(a) for not showing the extended x-ray source feature of the claims.

In response to the drawing objection, Applicant has added the number 31 to Figures 1 and 2 of the substitute drawings and have amended paragraph [0015] to include, "The x-ray source 12 is embodied as a flat panel x-ray source or an extended x-ray source 31 (e.g. Imatron), or a standard x-ray tube." No new matter has been added by these proposed drawing corrections. Applicant will formalize these changes upon the Examiner's approval.

In Response To The Claim Objections:

Claims 3, 6, and 7 have been objected to because they recite the limitation CT detector without sufficient antecedent basis for this limitation. In response to this

objection Applicant has amended claims to depend from claim 2, which includes a CT detector, therefore resolving the antecedent basis problem.

In Response To The Claim Rejections:

Claims 1-3 and 8-13 are rejected under 35 U.S.C. §102(b) as being anticipated by *Klingenbeck* (US Patent 5,025,463). Claims 1-8 and 11-17 are rejected under 35 U.S.C. §102(b) as being anticipated by *Saito et al.* (US Patent 5,025,463). Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (U.S. Patent No. 5,181,234).

As mentioned, claims 1-3 and 8-13 are rejected under 35 U.S.C. §102(b) as being anticipated by *Klingenbeck* (US Patent 5,025,463). According to the Office Action, *Klingenbeck* discloses the elements of claims 1, 2, and 11 including: a computed tomography system comprising: a gantry, an x-ray source coupled to the gantry generating x-ray flux, a CT detector coupled to the gantry generating a detector signal in response to the x-ray flux, a first scatter detector coupled to the gantry generating a scatter signal in response to the x-ray flux, and a host computer receiving the detector signal and the scatter signal.

Claim 1 has been amended to include, “a host computer adapted to receive said scatter signal and generate therefrom an image,” in accordance with paragraph [0020], which the *Klingenbeck* reference neither discloses nor suggests. Claim 2 depends from claim 1 and is believed to be novel for at least the same reason. Claim 11 has been amended to include: “a host computer adapted to receive said detector signal and said scatter signal and to generate an image from said scatter signal,” in

accordance with paragraph [0020], which the *Klingenbeck* reference neither discloses nor suggests.

With regard to claims 3 and 13, according to the Office Action, *Klingenbeck* discloses the system of claims 1 and 11, wherein the first scatter detector is positioned substantially adjacent the CT detector. Claims 3 and 13 depend from the amended claims 1 and 11 and are believed to be allowable for at least the same reason.

With regard to claims 8 and 12, according to the Office Action, *Klingenbeck* discloses the system of claims 1 and 11, wherein the x-ray source comprises an extended x-ray source. Claims 8 and 12 depend from the amended claims 1 and 11 and are believed to be allowable for at least the same reason.

With regard to claim 9, according to the Office Action, *Klingenbeck* discloses a method for data collection for an imaging system comprising activating an x-ray source, generating an x-ray flux, receiving scatter radiation from the x-ray flux in at least one scatter detector, generating a scatter signal in response to the x-ray flux, and receiving the signal in a host computer.

Claim 9 has been amended to include, “receiving said scatter signal in a host computer; and generating an image from said scatter signal,” in accordance with paragraph [0020], which the *Klingenbeck* reference neither discloses nor suggests. Claim 10 depends from the amended claim 9 and is believed to be allowable for at least the same reason.

Klingenbeck is directed towards correcting for scatter radiation received in the primary detector row. Column 2, lines 5-13. Applicant is using scatter radiation to generate an image of the object being scanned so that more information can be

obtained from a single scan, i.e. a detector image and a scatter image. As is stated in the Background section, it is a constant goal to gain more information from a minimal amount of scans. Having a computer adapted to use the scatter signals to create an image for a CT scanner, as is claimed, is therefore both novel and non-obvious and generally solves this ongoing problem in the field of medical imaging.

The Applicant therefore submits that claims 1-3 and 8-13 are novel and nonobvious because the claims and the prior art are substantially different.

Claims 1-8 and 11-17 are rejected under 35 U.S.C. §102(b) as being anticipated by *Saito* et al. (US Patent 5,025,463). According to the Office Action, *Saito* discloses the elements of claims 1, 2, and 11 including: a computed tomography system comprising: a gantry, an x-ray source coupled to the gantry generating x-ray flux, a CT detector coupled to the gantry generating a detector signal in response to the x-ray flux, a first scatter detector coupled to the gantry generating a scatter signal in response to the x-ray flux, and a host computer receiving the detector signal and the scatter signal. Further according to the Office Action, *Saito* discloses the positioning of the first scatter detector and the second scatter detector as in claims 3-7 and 13-17, and the extended x-ray source of claims 8 and 12.

As was previously mentioned, claims 1 and 11 have been amended to include the limitation that the computer generates an image from the scatter signals. *Saito* is directed to detecting scatter to determine if a detector is defective and not to generating images from the scatter signals, as is claimed by the Applicant.

Applicant respectfully submits that claims 1 and 11 are novel and non-obvious because the claims and the prior art differ. For at least the same reasons, claims 2-8

depending from claim 1, and claims 12-17 depending from claim 11 are also believed to be allowable.

Claims 9 and 10 are rejected under 35 U.S.C. §102(b) as being anticipated by *Smith* (US Patent 5,181,234). According to the Office Action, *Smith* discloses the claim 9 method for data collection for an imaging system comprising activating an x-ray source, generating an x-ray flux, receiving scatter radiation from the x-ray flux in at least one scatter detector, generating a scatter signal in response to the x-ray flux, and receiving the signal in a host computer. Also according to the Office Action, *Smith* discloses generating a two-dimensional image of claim 10.

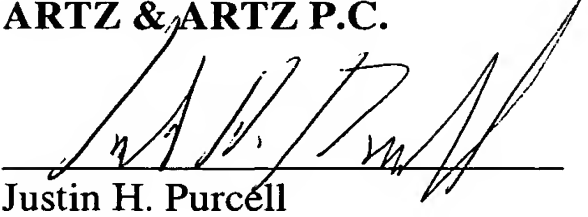
Claim 9 has been amended to include “receiving scatter radiation from said x-ray flux in at least one scatter detector coupled to a rotating gantry,” in accordance with paragraph [0019], which the *Smith* reference neither discloses nor teaches. *Smith* is directed towards suppressing anatomical features of a scanned body through reflected x-rays. see Abstract. *Smith* is not directed towards medical imaging through an x-ray source coupled to a gantry. Further arguments regarding claims 9 and 10 are detailed above.

In view of the aforementioned remarks, it is respectfully submitted that all pending claims are in a condition for allowance. A notice of allowability is therefore respectfully solicited. Please charge any fees required in the filing of this amendment to Deposit Account 50-0476.

The Examiner is invited to contact the undersigned at (248) 223-9500 if any unresolved matters remain.

Respectfully Submitted,

ARTZ & ARTZ P.C.



Justin H. Purcell
Reg. No. 53,493
Artz & Artz, PC
28333 Telegraph Road, Suite 250
Southfield, MI 48034
(248) 223-9500

Dated: December 11, 2003